Appendix 2. Lithostratigraphic units specified in the geology map of South Africa with simplified lithostratigraphy for geohydrological use (Vegter 1995). Lithostratigraphy is the description of the strata- sedimentary, igneous and metamorphic-in terms of mineralogic composition. It reflects the mineral composition of the associated water.

Lithostrati- graphic Symbol	Degree Of Metamorphism	Deformation	Lithostratigraphic Units	Principal Rock Types
CPd	0-1	U	Dwyka Formation	Tillite with subordinate sandstone, mudstone, shale; intruded by dolerite dykes and sheets
Jj	0	U	Jozini Formation, Tshokwane Granophyre, Bumeni Complex:	Rhyolite, granophyre, syenite, tuff, breccia, minor sedimentary rocks
Jl	0	U	Letaba Formation:	Basalt; north-south trending dolerite dykes along Lebombo range
Kma	0	U	Malvernia Formation:	Sandstone, conalomerate, marl
Ms	1	U	Soutpansberg Group and Blouberg Formation:	Quartizite, conglomerate, grit, sandstone, siltstone, mudstone, shale, basalt, trachy-andesite, tuff; diabase dykes/sills
Pe	0	U	Ecca Group:	Shale; intruded by dolerite dykes and sheets
PTru	0	U	Undifferentiated Karoo Sequence:	Sandstone, siltstone, mudstone, shale; intruded by dolorite and includes patches of Letaba basalt north of the Soutpansberg
R	2-4	U-D	Houtrivier, Salisbury Kop, Mpuluzi, Gaborone, Harmony and Cunning Moor Intrusives:	Biotite-muscovite granite, gneiss, leucogranite, migmatite, potassic granite, quartz monzonite, tonalite, quartz porphyry
Rro	1	D	Rooiwater Complex:	Diorite, gabbro
RV	2	U	Mashashane and Mashishimale Suites; Aderouke, Hugomond, Lekkersmaak, Mtlala, Matok, Moletsi, Palmietfontein, Shamiriri, Shirindi, Smitskraal,Turfloop, Utrecht, Mosita And Unnamed Intrusives:	Granite, biotie-muscovite granite; diabase/dolerite dykes
V	2	U	Mpageni, Meinhardskraal and Unnamed Intrusives:	Potassic biotite and leucocratic granites with north- easterly trending diabase / dolerite dykes
Vg	2-3	D	Groblersdal Group: Dennilton and	Lava, tuff, schist, gneiss, slate, shale, quartzite

Lithostrati- graphic Symbol	Degree Of Metamorphism	Deformation	Lithostratigraphic Units	Principal Rock Types
			Bloempoort Formations:	
Vgwb	2	U-D	Godwan Formation, Wolkeberg Group and Black Reef Formation:	(except where the latter is included with Malmani subgroup and Assen formation): Lava, tuff, quartzite, shale, conglomerate
Vm	0-2	U-D	Malmani Subgroup, Assen and Black Reef Formations:	(exept where the latter is included with Godwan formation and Wolkberg group): Dolomite, chert, subordinate quartzite, conglomerate, shale; diabase and syenite dykes and sills
VMlw	1	U	Loskop and Wilge River Formations:	Pyroclastics, lava, quartzite,conglomerate, sandstone siltstone; grit, shale, diabase sills
VMrl	0	U	Rashoop Granophyre and Lebowa Granite Suite:	Granophyre, hornblende and biotite granites
Vp	0-3	U-D	Pretoria Group, Duitschland, Penge and Langrant Formations:	Quartzite, shale, conglomerate, iron formation, breccia, diamicitite, limestone, dolomite, and where not shown separately as Vh, andesite; also includes Malmani dolomite north of Vredefort dome; diabase sills, syenite and diabase dykes
Vro	0-1	U-D	Rooiberg Group:	Rhyolite, pyroclastics
Vru	1	U	Rustenburg Layered Suite:	Bronzitite, harzitite, harzhurgite, norite, pyroxenite, anorthotise, gabbro, diorite
Vrw	0	U	Rust Der Winter Formation:	Sandstone, conglomerate, rhyolite
Vt	2	D	Pretoria And Chuniespoort Groups:	Quartzite, shale, dolomite
Z	2-4	U-D	Nelspruit, Dalmein, Hebron, Halfway House, Goudplaats and Unnamed Intrusives:	Granite, granodiorite, tonalite, gneiss, migmatite
Zba	1-2	D	Barberton Sequence:	Sandstone, shale, conglomerate, greywacke, lava, pyroclastic rocks
Zg	2	D	Gravelotte Group:	Ultramafic, mafic and acid lava, tuff, schist, conglomerate, quartzite
Zgi	2-3	D	Giyani Group:	Ultramafic and mafic lavas, schist
Zp	3	D	Pietersburg Group:	Ultramafic and mafic lavas, quartzite, conglomerate, chloriteschist

Lithographic symbols: Capital letter (or letters) denote:

(a) Systems: Quaternary, Tertiary, (K) Cretaceous, Jurassic, (Tr) Triassic, Permian, Carboniferous, Devonian, Ordovician, Silurian, (E) Cambrian.

(b) Erathems: Namibian, Mokolian, Vaalian, Randian, (Z) Swazian.

Degree of metamorphism:

- 0 Unmetamorphosed superficial deposits and platform rocks and anorogenic intrusive and extrusive rocks
- 1 Very low grade (burial, thermal, orogenic) characterised by minerals such as zeolite, prehnite, pumpellyite, riebeckite, minnesotiate, stilpnomelane
- 2 Low grade thermal (albite epidote hornfels facies) and burial/orogenic greenschist facies (epidote, chlorite, actinolite)
- 3 Medium grade thermal (hornblende hornfels) and orogenic amphibolite facies with/without migmatite
- 4 High grade thermal (pyroxene hornfels) and orogenic facies

Deformation: U - not folded or foliated; D - folded or foliated